

What's In a Name?

Taxonomy—Morphology vs DNA

Linnaean taxonomy

For a long time, taxonomy was based on morphology--size, shape, color and body structure.

Linnaeus simplified things by using just two names for each species; one name refers to the **g**enus and the other to the species. This is the binomial naming system.

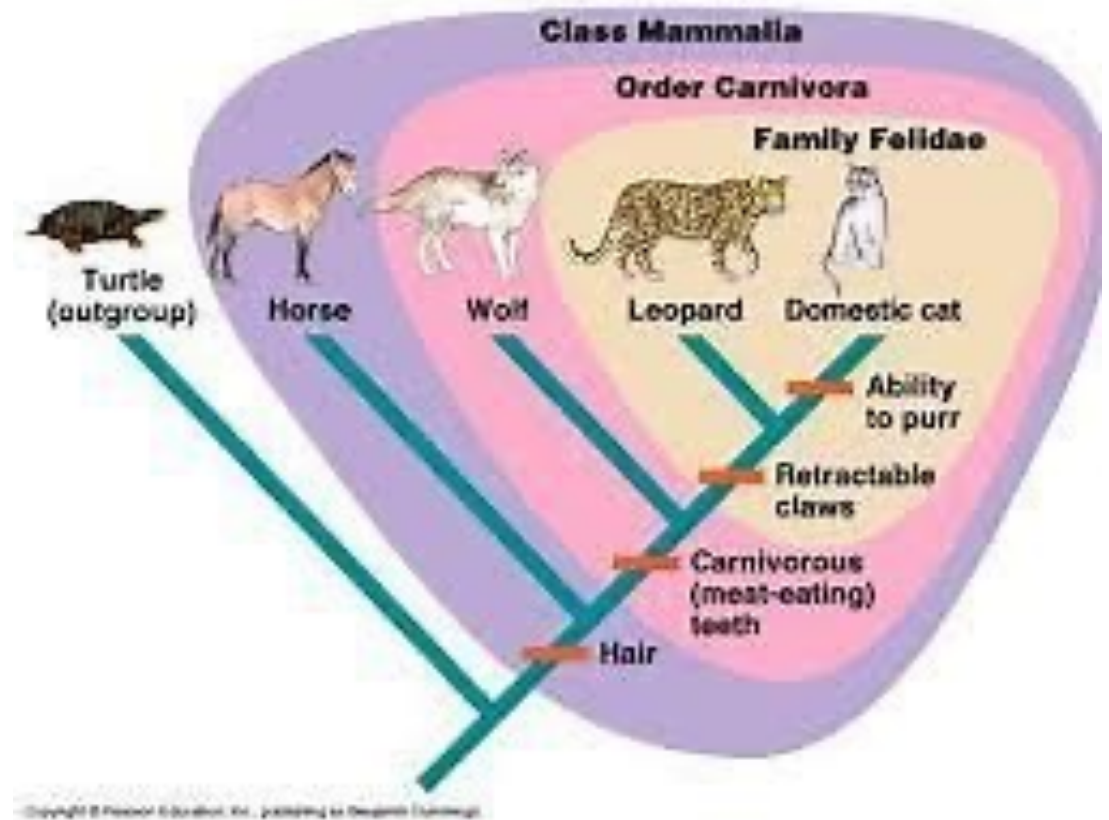
Linnaeus continued to group plants based on shared physical attributes but instead of looking at the entire plant., he focused on the anatomy of the reproductive system.



DNA and clades

A clade, is a grouping of organisms that are composed of a common ancestor and all its lineal descendants.

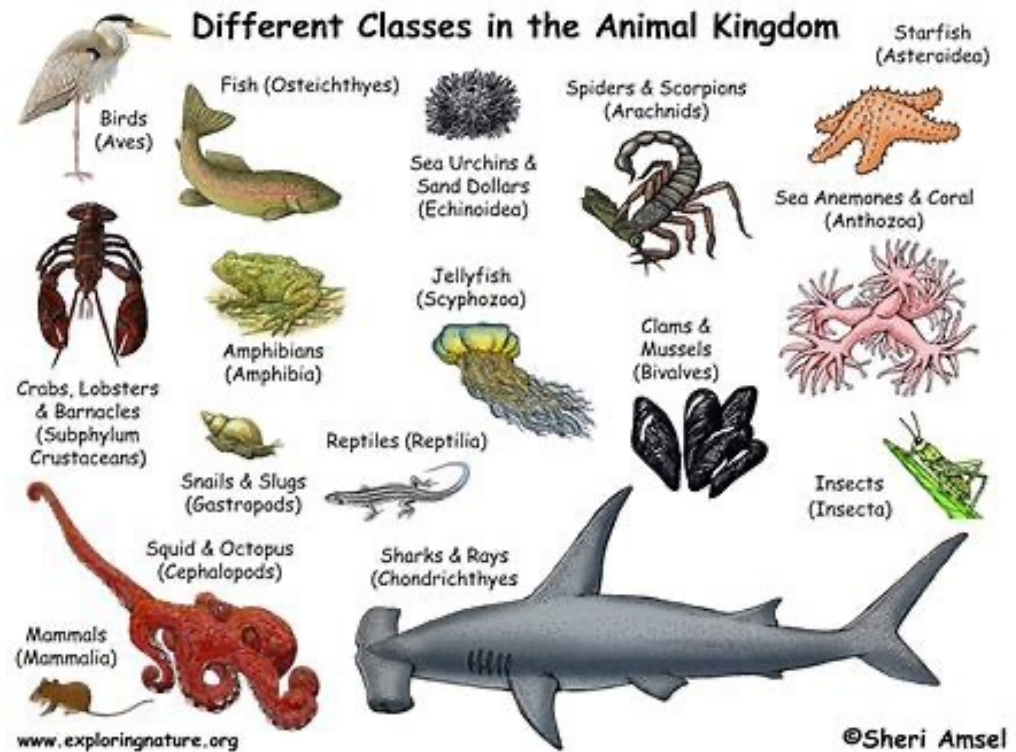
DNA information is part of what scientists use in hypothesizing relationships



Oh, Taxonomy sing to *Clementine*

Classifying by Linnaeus
by morphology is made,
(hands wavy)

Classify with DNA helps
us hypothesize the
clade. (pointing to
head)



Taxonomy Ditty to *Comin'* *Around the Mountain*

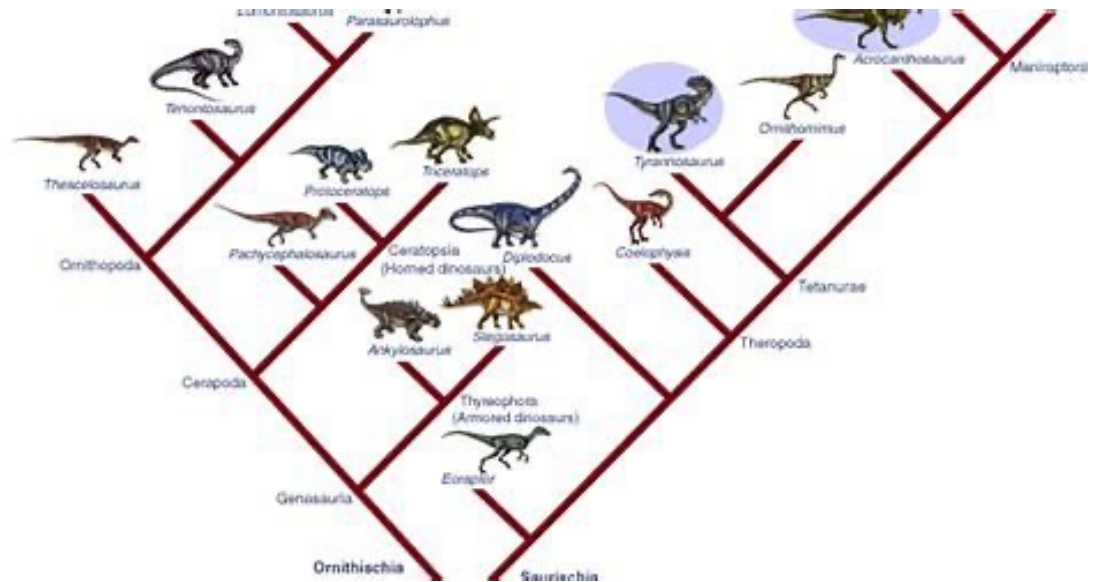
We're classifying Linnaean
by the look, (eyes)

And writing charts for
cladistics in a book, (hands
open book)

Morphology then DNA
(pointing to head)

Gave us another way, (2
fingers)

And rethinking classifying's
all it took! (pointing to head)





Creative taxonomy

As you walk through the park think about how plants look the same and different—which ones would you group together?

How would you group the animals on the next page by how they look>

How would you sort and classify these snacks?

Different Classes in the Animal Kingdom



Birds
(Aves)



Fish (Osteichthyes)



Sea Urchins &
Sand Dollars
(Echinozoa)

Spiders & Scorpions
(Arachnids)



Starfish
(Asterozoa)



Sea Anemones & Coral
(Anthozoa)



Crabs, Lobsters
& Barnacles
(Subphylum
Crustaceans)



Amphibians
(Amphibia)

Jellyfish
(Scyphozoa)



Clams &
Mussels
(Bivalves)

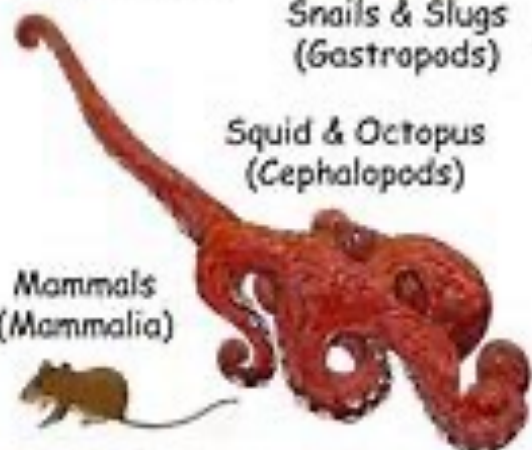


Snails & Slugs
(Gastropods)



Reptiles (Reptilia)

Insects
(Insecta)



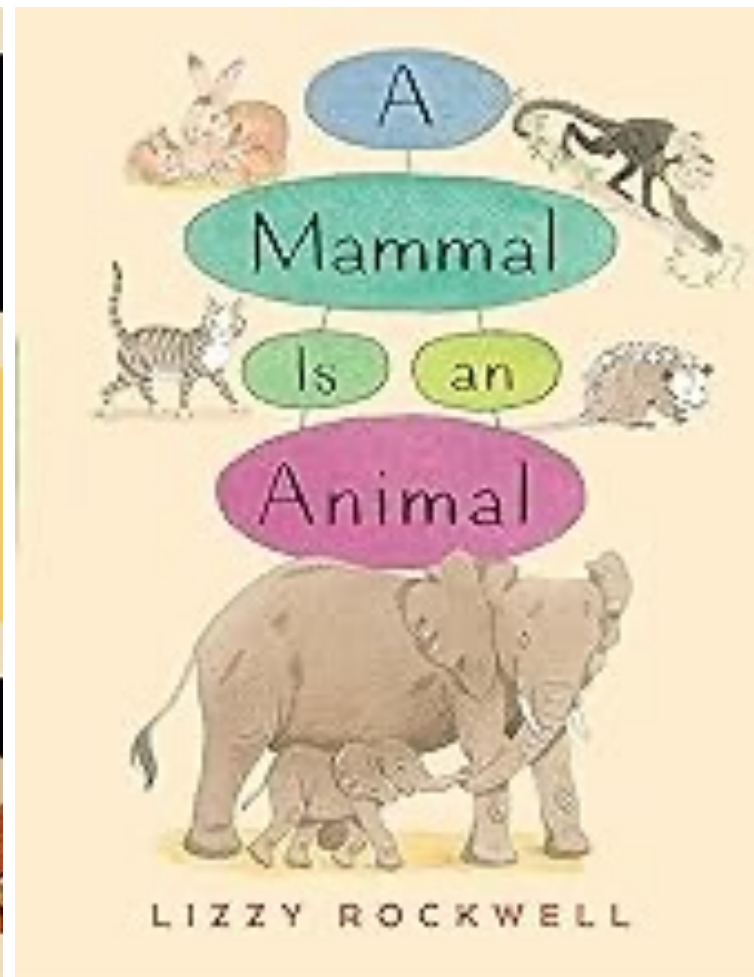
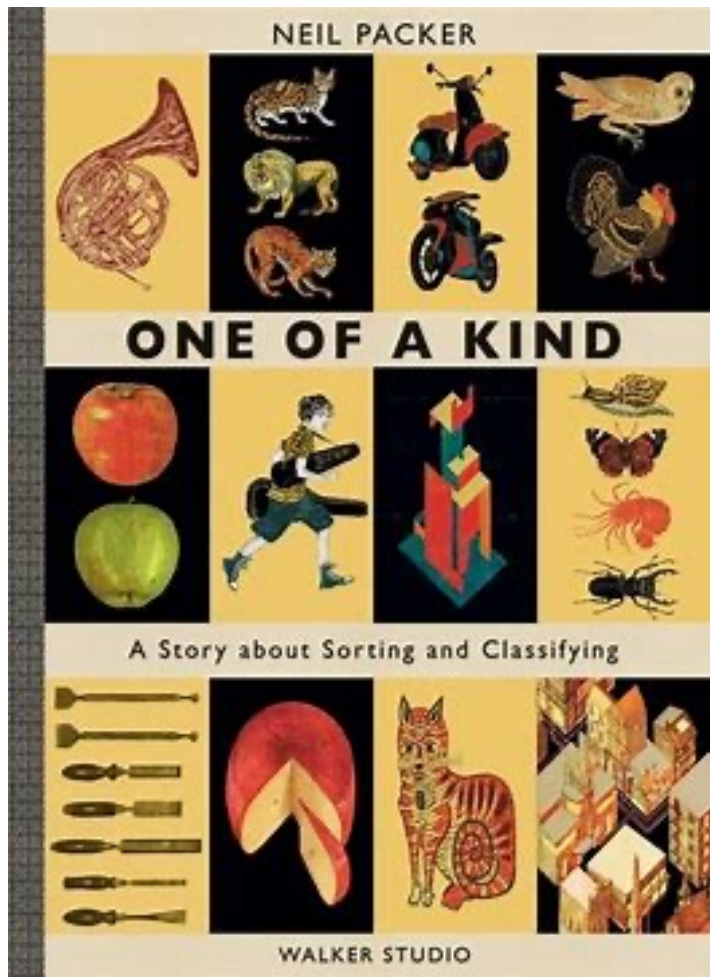
Squid & Octopus
(Cephalopods)

Sharks & Rays
(Chondrichthyes)



Mammals
(Mammalia)





Thinking about classifying